



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

C3-4-4KA
Job Sheet R202026



Part No: C3-4-4KA

Job Qty: 8 pcs

Part Name: Keeperless Load Beam Assembly - C3 Hook



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 10/17/19

Job Tracking No:

Created By: Jennifer Renwick

Due Date: 11/22/19

Type: Rework

Description: NCR19-7091

Note: DWG C3-4-4A/C3-4-4KA Rev 10 IPP Rev A 18.03.02 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier	Sign-off
					Setup	Run		
					Hrs	Hrs	Workcenter / Supplier Lead Time	
90	Rework Startup	8 pcs	11/22/19		0.00	4.00	Handfinish - 7 - 1 - B4B	BEB19-11-5
							Handfinish - 7 - 2 - B4B	
95	Rework - 2 - B4B	8 pcs	11/22/19		0.00	0.00	QC 2 - 1	
							QC 2 - 12	
							QC 2 - 14	
							QC 2 - 17	
							QC 2 - 19	
							QC 2 - 2	
							QC 2 - 20	
							QC 2 - 22	
							QC 2 - 23	
							QC 2 - 25	
							QC 2 - 32	
							QC 2 - 33	
							QC 2 - 35	
							QC 2 - 39	
							QC 2 - 4	
							QC 2 - 40	
							QC 2 - 44	
							QC 2 - 45	
							QC 2 - 48	
							QC 2 - 49	
							QC 2 - 50	
							QC 2 - 51	
							QC 2 - 52	
							QC 2 - 57	
							QC 2 - 62	



Dart Aerospace Ltd.
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CANADA
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Email: sales@dartaero.com
www.dartaerospace.com

Container No: S174352



Part: C3-4-4KA

Job No: R202026

Serial No/Batch: S174352

Revision: 10

Inspector:

Exp Date:

Instructions:

Date: 11/17/19

Plex 10/17/19 3:17 PM Dart.Renwick.Jennifer

					QC 2 - 63	
					QC 2 - 8	B. 19-11-08
					QC 2 - 66	
					QC 2 - 64	
					QC 2 - 65	
					QC 2 - 5	
					QC 2 - 71	
					QC 2 - 73	
					QC 2 - 69	
					QC 8 - 12	
96	Rework - 3 - B4B	8 pcs	11/22/19	0.00 0.00	QC 8 - 14	
					QC 8 - 17	
					QC 8 - 20	
					QC 8 - 25	
					QC 8 - 3	
					QC 8 - 32	
					QC 8 - 33	
					QC 8 - 35	
					QC 8 - 39	
					QC 8 - 4	
					QC 8 - 44	
					QC 8 - 45	
					QC 8 - 49	mmml 19/11/17
					QC 8 - 58	
					QC 8 - 8	
					QC 8 - 9	
					QC 8 - 68	
					QC 8 - 67	
					QC 8 - 1 (A)	
					QC 8 - 47	
					QC 8 - 40	
					QC 8 - 52	
					QC 8 - 23	
					QC 8 - 57	
					QC 8 - 76	
					QC 8 - 61	
100	Small Fab - 1	8 pcs	11/22/19	0.00 1.00	Small Fab - 1	
					Small Fab - 2	
					Small Fab - 3	
					Small Fab - 4	
					Small Fab - 5	
					Small Fab - 6	
					Small Fab - 7	AP 2019/11/20
					Small Fab - 8	
110	QC 5	8 pcs	11/22/19	0.00 0.00	QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	

				QC 5 - 51	
				QC 5 - 58	
				QC 5 - 68	DAS NOV 20 2019 68
				QC 5 - 9	9-89
				QC 5 - 50	
				QC 5 - 30	
				QC 5 - 40	
				QC 5 - 61	
				QC 5 - 81	
130	Outsource - 15 - Nickel Plate	8 pcs	11/22/19	GRO002-VC	10 10 2019-11-20
140	Packaging 2-1 - Receive - B4B	8 pcs	11/22/19	0.00 0.00	Packaging 2 - 1 - B4B
				Packaging 2 - 2 - B4B	
				Packaging 2 - 3 - B4B	
				Packaging 2 - 5 - B4B	
				Packaging 2 - 4 - B4B	
				Packaging 2 - 6 - B4B	
				Packaging 2 - 7 - B4B	
				Packaging 2 - 8 - B4B	
				Packaging 2 - 9 - B4B	
				Packaging 2 - 10 - B4B	
				Packaging 2 - 11 - B4B	
				Packaging 2 - 12 - B4B	
				Packaging 2 - 13 - B4B	DP NOV 27 2019
				Packaging 2 - 14 - B4B	
				Packaging 2 - 15 - B4B	
				Packaging 2 - 16 - B4B	
				Packaging 2 - 17 - B4B	
				Packaging 2 - 18 - B4B	
				Packaging 2 - 19 - B4B	
				Packaging 2 - 20 - B4B	
				Packaging 2 - 21 - B4B	
				Packaging 2 - 22 - B4B	
				Packaging 2 - 23 - B4B	
				Packaging 2 - 24 - B4B	
				Packaging 2 - 25 - B4B	
				Packaging 2 - 26 - B4B	
				Packaging 2 - 27 - B4B	
				Packaging 2 - 28 - B4B	
				Packaging 2 - 29 - B4B	
				Packaging 2 - 30 - B4B	
				Packaging 2 - 31 - B4B	
				Packaging 2 - 32 - B4B	
				Packaging 2 - 33 - B4B	
				Packaging 2 - 34 - B4B	
				Packaging 2 - 35 - B4B	
				Packaging 2 - 36 - B4B	
150	QC 6	8 pcs	11/22/19	0.00 0.00	QC 6 - 9
				QC 6 - 68	
				QC 6 - 61	
				QC 6 - 40	
				QC 6 - 81	
160	Packaging 3-1 - Stock - B4B	8 pcs	11/22/19	0.00 0.00	Packaging 3 - 1 - B4B
				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	

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				Packaging 3 - 4 - B4B	DAS
				Packaging 3 - 5 - B4B	28
				Packaging 3 - 6 - B4B	9-89
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
170 QC 21 - SA				8 pcs	11/22/19
				0.00 0.00	
				QC 21 - SA - 21	DAS
				QC 21 - SA - 70	21
				QC 21 - SA - 53	9-89

DEC 04 2019

Part Op 90 - Bead blast, remove all rust.

Descriptions: 95 - (QC2- Inspect parts off machine FAI/FAIB) ***NOTE***FAI required for each individual piece.

96 - (QC8- Inspect parts - second check)

100 - (Small Fab) Assemble as per DWG.

110 - (QC5- Inspect part completeness to step on W/O)

130 - (Outside Processing - Nickel Plate) --Issue P/O; 45158 -All noncertified parts specifying a finish of Nickel Plating per QQ-N-290, or parts with drawings that are missing a specification Can be Nickel Plated per ASTM B733 Type 4/5, SC0-SC4 or MIL-C-26074 Class 1/2 -Material type; 4140 -Heat treat must be carried out to specified hardness if noted on the drawing. -Plating thickness must be carried out as specified on the drawing. -Certificate of Conformity is required

140 - (Receive & Inspect for Damage & Mat'l Certs)

150 - (QC6- All purchased or subcontracted products)

160 - (Identify as per dwg & Stock Location: _____) Identify and Stock

170 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
C3-4-4K ✓	Load Beam	8 pcs (1 ea)	90-Rework Startup	5179352
C3-4-2* ✓	Trunnion	126 pcs (1 ea)	100-Small Fab - 1	5172363
C3-4-4K	Load Beam	8 pcs (1 ea)	100-Small Fab - 1	517994

C3-4-4KA - (x8)
C3-4-2 (x1)

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Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Rework Startup	C3-4-4K	8	9	0
100-Small Fab - 1	C3-4-2	8	19	0
	C3-4-4K	8	9	0

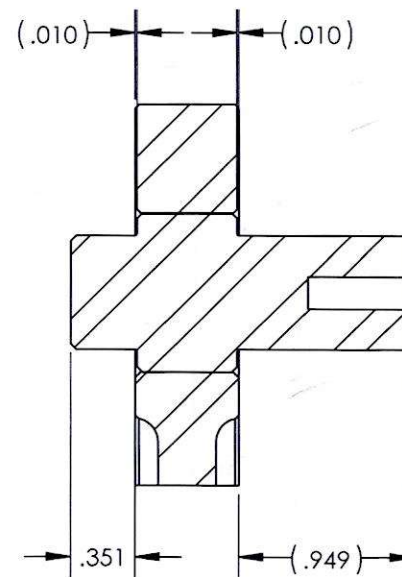
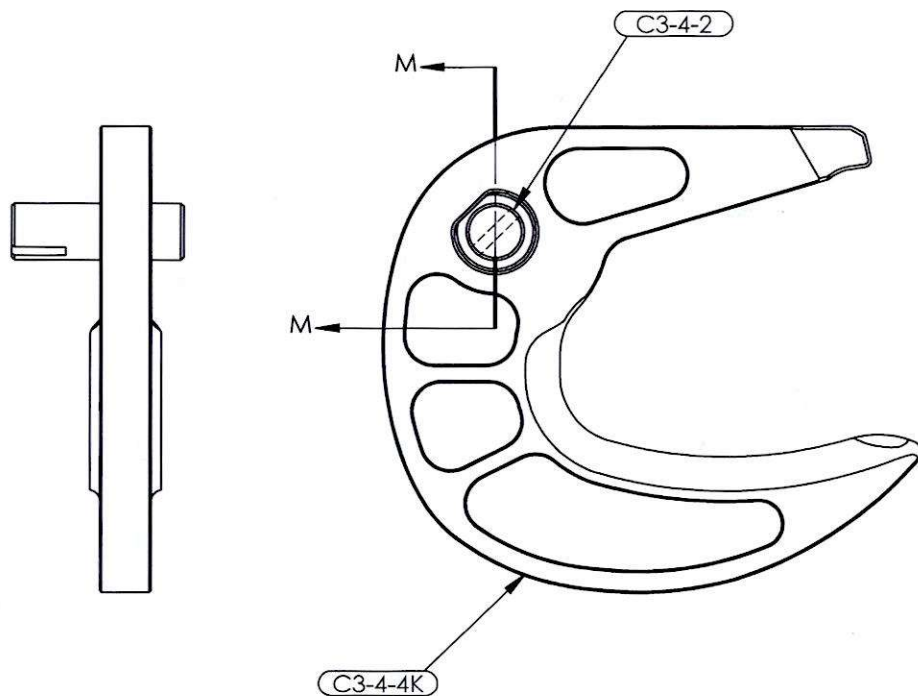
Part Specifications

Specifications could not be found.

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
9	15-0126	C3-4-4KA ADDED TO DRAWING FOR KEEPERLESS OPTION.	6/2/2015	RJC	JAG



SECTION M-M
SCALE 1 : 1

NOTE:

1. NICKLE PLATE .0009-.0011, BAKE AFTER PLATING.

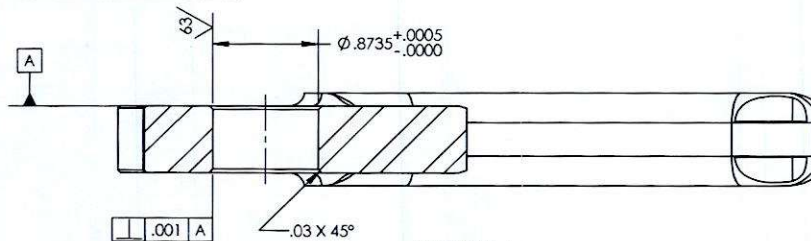
C3-4-4KA

C3 KEEPERLESS LOAD BEAM ASSEMBLY

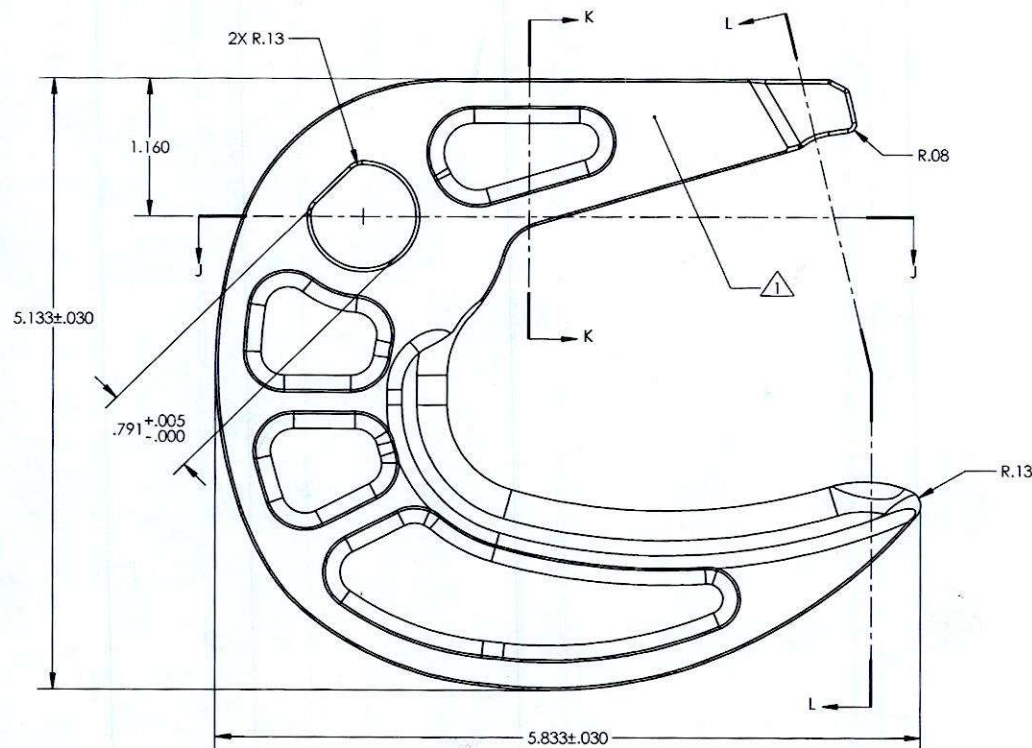
DART AEROSPACE	
TITLE C3 LOAD BEAM ASSEMBLIES	
DWG NO. C3-4-4A / C3-4-4KA	REV 10
MAT'L UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	DRAWN BY: CLOUGH APPROVED <i>J. Gilbert</i> HEAT TREAT FINISH SEE NOTE 1 SPEC USED ON MODEL
SCALE 1:2	DATE 6/2/2015
SHEET 3 OF 6	

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REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
9	15-0126	C3-4-4K ADDED TO DRAWING FOR KEEPERLESS OPTION.	6/2/2015	RJC	JAG
10	15-0198	C3-4-4K CH D DIMS WAS 5.833 IS 5.833 ± 0.030, WAS 5.133 IS 5.133 ± 0.030, DELETED DIM R.25.	8/27/2015	DPD	JAG

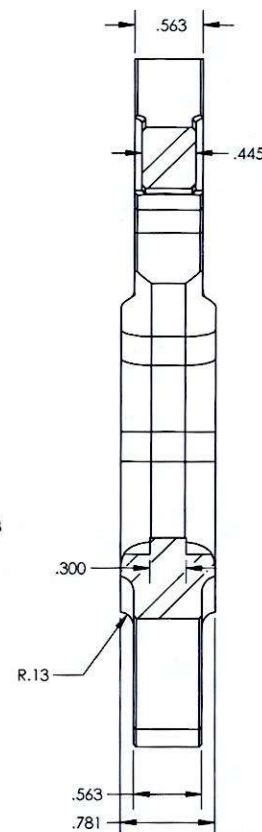


SECTION J-J

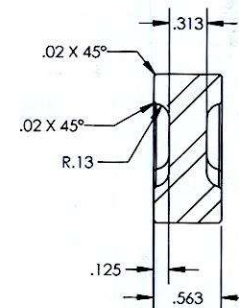
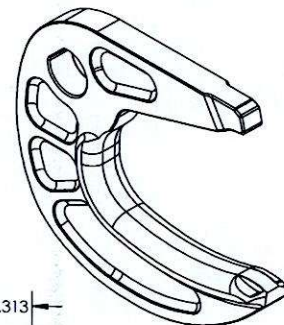


C3-4-4K

LOAD BEAM



SECTION L-L



SECTION K-K
TYP 4 PLACES

NOTES:

1. MACHINE ENGRAVE BATCH NUMBER.
2. NICKEL PLATE AFTER PART HAS BEEN ASSEMBLED WITH TRUNNION C3-4-2.
3. USE DXF PROFILE FOR PART CONTOURS.

DART AEROSPACE	
TITLE C3 LOAD BEAM ASSEMBLIES	
DWG NO. C3-4-4A / C3-4-4KA	REV 10
MATL. 4140/4142	DRAWN BY: CLOUGH
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED: <i>J. Gelber</i>
.XXX ± .005	HEAT TREAT RC 53-56
.XX ± .01	FRACTIONS ± 1/8
.X ± .1	ANGLES ± 5°
1. BREAK ALL SHARP EDGES .015 ± .45° OR .015R	SPEC
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL
SCALE 1:1	DATE 6/2/2015
SHEET 6 OF 6	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **POHB045158**



Supplier: GRO002-VC
Group Altech
2455 Halpern
St Laurent
QC
H4S 1N9 Canada
Phone: 514-335-3666
Fax: 514-335-3868

Attention: Grenon, Sylvie

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB045158

PO Date: 11/20/19

Due Date: 11/28/19

**Purchase Order
Revision:**

Revision Date:

Ship-To Contact: Guerin, Kimberley
Phone: 613-632-5200 Ext: 298
kguerin@dartaero.com

Via: Ground

Pymt Terms: Net 60

Freight Terms:

Special Comments:

E-MAILED
2019-11-25

Items

Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
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Dart Aerospace Ltd.
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PURCHASE ORDER

POHB045158



Items

Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	OH201652	C60-OH	OM&OOPM-C60 Rev 3	C-Series Remote Hook 6,000 lbs Lift Capacity -Issue P/O - parts to be stripped first -All noncertified parts specifying a finish of Nickel Plating per QQ-N-290, or parts with drawings that are missing a specification Can be Nickel Plated per ASTM B733 Type 4/5, SC0-SC4 or MIL-C-26074 Class 1/2 -Material type; -Heat treat must be carried out to specified hardness if noted on the drawing. -Plating thickness must be carried out as specified on the drawing. -Certificate of Conformity is required	Firmed	-	11/28/19	1 pcs	0 pcs	1 pcs	\$154.2433/pcs	\$154.24

XI

NOV 27 2019

DF

Line Item Note 1 kit = 5 pcs



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Items

Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
2	200691	PC250-700	PC250-700 Rev 2	Lever Arm -Issue P/O; -All noncertified parts specifying a finish of Nickel Plating per QQ-N-290, or parts with drawings that are missing a specification Can be Nickel Plated per ASTM B733 Type 4/5, SC0-SC4 or MIL-C-26074 Class 1/2 -Material type; -Heat treat must be carried out to specified hardness if noted on the drawing. -Plating thickness must be carried out as specified on the drawing. -Certificate of Conformity is required	Firmed	-	11/28/19	4 pcs	0 pcs	4 pcs	\$11.9333/pcs	\$47.73

X4

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DP



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PURCHASE ORDER

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Items												
Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
3	201077	PC250-610	PC250-610 Rev A	Pin (Outside Processing - Nickel Plate) -Issue P/O; -All noncertified parts specifying a finish of Nickel Plating per QQ-N-290, or parts with drawings that are missing a specification Can be Nickel Plated per ASTM B733 Type 4/5, SC0-SC4 or MIL-C-26074 Class 1/2 -Material type; 4140 -Heat treat must be carried out to specified hardness if noted on the drawing. -Plating thickness must be carried out as specified on the drawing. -Certificate of Conformity is required	Firmed	-	11/28/19	20 pcs	0 pcs	20 pcs	\$4.2233/pcs	\$84.47



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PURCHASE ORDER POHB045158



Items

Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
4	R202026	C3-4-4KA	C3-4-4A/C3-4-4KA Rev 10	Keeperless Load Beam Assembly - C3 Hook (Outside Processing - Nickel Plate) --Issue P/O; -All noncertified parts specifying a finish of Nickel Plating per QQ-N-290, or parts with drawings that are missing a specification Can be Nickel Plated per ASTM B733 Type 4/5, SC0-SC4 or MIL-C-26074 Class 1/2 -Material type; 4140 -Heat treat must be carried out to specified hardness if noted on the drawing. -Plating thickness must be carried out as specified on the drawing. -Certificate of Conformity is required	Firmed	-	11/28/19	8 pcs	0 pcs	8 pcs	\$26.7833/pcs	\$214.27

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Items

Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
5	200887	PC250-500A	PC250-500A Rev 1	Lock Assembly -Issue P/O; -All noncertified parts specifying a finish of Nickel Plating per QQ-N-290, or parts with drawings that are missing a specification Can be Nickel Plated per ASTM B733 Type 4/5, SC0-SC4 or MIL-C-26074 Class 1/2 -Material type; 4140 -Plating thickness must be carried out as specified on the drawing. -Certificate of Conformity is required	Firmed	-	11/28/19	3 pcs	0 pcs	3 pcs	\$25.0133/pcs	\$75.04
Grand Total:											\$575.75	

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retension of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Guerin

Plex 11/25/19 8:36 AM Dart.Guerin.Kimberley



Certificat de Conformité / Certificate of Compliance

(024313-1)

2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9
 Tel: 514-335-3666 Fax: 514-335-3868
 www.groupaltech.com

Bon de Livraison / Packing Slip

024313- 1

Livré à / Ship to

DART AEROSPACE LTD
 1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA
 Tel.: 613-632-5200 Fax: .

Client / Customer:

DART AEROSPACE LTD
 1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA
 BUYER:

Date expédition Ship date		Créé Par Generated By		Transport / No de Compte Courier / Acc. No.		Bon de commande Client Customer Purchase Order No.			
26-Nov-2019		Jigar Patel				POHB045158			
#Ligne Line#	No. de Série / # Pièce Part Number /Line Item Details Job # / Ref #	Description pièce(s)	CATG. U/M	Comm. /Ordered	Exp/ Shipped	Quantités Qté NC/ NC Qty	Quantités Qté Scrap/	À venir / Back Order	
1	C60-OH Rev.3	OM&OOPM-C60 E-NIC STEEL 500 [E-NICKEL STEEL 500] AS PER QQ-N-290 OR AS PER ASTM B733 TPYE - 4 / 5, SC0 - SC4 OR MIL-C-26074 CLASS 1/2 0.0009 "- 0.0011 " (THICKNESS FOR THE HOOK) 0.0004 " - 0.0006 " (THICKNESS FOR THE REST OF THE PARTS) BAKE AFTER	E-NICKEL-500 LOT	1	1	0	0	0	
2	PC250-700 Rev.2	PC250-700 E-NIC STEEL 500 [E-NICKEL STEEL 500] AS PER QQ-N-290 OR AS PER ASTM B733 TPYE - 4 / 5, SC0 - SC4 OR MIL-C-26074 CLASS 1/2 0.0004 " -0.0006 " THICKNESS BAKE AFTER	E-NICKEL-500 CH	4	4	0	0	0	
4	C3-4-4KA Rev.	C3-4-4A/C3-4-4KA 10 E-NIC STEEL 500 [E-NICKEL STEEL 500] AS PER QQ-N-290 OR AS PER ASTM B733 TPYE - 4 / 5, SC0 - SC4 OR MIL-C-26074 CLASS 1/2 0.0009 " -0.0011 " THICKNESS BAKE AFTER	E-NICKEL-500 CH	8	8	0	0	0	
5	PC250-500A Rev.	PC250-500A 1 E-NIC STEEL 500 [E-NICKEL STEEL 500] AS PER QQ-N-290 OR AS PER ASTM B733 TPYE - 4 / 5, SC0 - SC4 OR MIL-C-26074 CLASS 1/2 0.0004 " -0.0006 " THICKNESS BAKE AFTER	E-NICKEL-500 CH	3	3	0	0	0	

RECEIVED
NOV 27 2019

RECEIVED
NOV 27 2019

RECEIVED

NOV 27 2019

RECEIVED

NOV 27 2019

DART AEROSPACE LTD.
DART AEROSPACE LTD.

Notes Additionnelles / Additional Notes

 Epaisseur réelle
 Actual Thickness

 Inspecteur Qualité
 Quality Inspector

 Réçu par
 Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences.
 Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements.
 Our financial and legal responsibility will not be higher than the amount of invoice.